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Social Norms and the Time Allocation of Women's Labor in Burkina Faso

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Abstract: This paper proposes that major determinants of allocation of women's time are social norms

that regulate the economic activities of women. Our emphasis on norms contrasts with approaches that

view time allocation as determined by household-level economic variables. Using data from Burkina

Faso, we show that social norms significantly explain differences in patterns of time allocation between

two ethnic groups: Mossi and Bwa. Econometric results show women from the two groups

exhibiting different responses to changes in farm capital. Implications are that policies that foster changes

in social norms may have more permanent effects on altering women's behavior.

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1. Introduction

The effect of social norms on economic behavior has recently captured the attention of a broad spectrum of both theoretical and applied economists (Kreps, 1997; Platteau, 1996). Social norms come in two varieties: those that directly regulate women's activities, and those that influence threat points in intra-household bargaining for all women of a particular community. Norms that directly regulate women's activities may prescribe social penalties for failing to conform to a set of labor activities traditional to a particular ethnic group. Norms that influence threat points, labeled "extra-household environmental parameters" by McElroy (1990), include 'competitiveness' in marriage markets, divorce legislation, government or private transfers that are gender specific, and attitudes regarding spousal abuse. We develop and test a model using data from Burkina Faso to show the significance of social norms as determinants of women's time allocation.

Women in southwestern Burkina Faso divide their labor time between working on their husbands' fields, working in independent income-generating economic activities, and working at home. Normally, we would expect a woman to respond to higher levels of her husband's farm capital by allocating more time toward work on her husband's field. Models that incorporate social norms predict that this responsiveness will vary across ethnic groups that have different norms. This prediction is consistent with time allocation data from a sample of women in a large market village in southwestern Burkina Faso. The data show that work responsiveness between ethnic groups in the village differs significantly. Whereas the labor input of women on their husband's fields of the less-patriarchal Bwa ethnic group is quite responsive to the level of their husbands' farm capital, the labor input on a husband's field of women from the more-conservative Mossi ethnic group is relatively invariant with respect to the farm capital of their husbands.

3

2. Social norms among the Mossi and Bwa of Burkina Faso

Social norms that regulate the economic activities of women are quite prevalent in many societies of sub-Saharan Africa. Women engaging in long-distance trade are subject to verbal and even physical abuse, and are often accused of being prostitutes. Schroeder (1996: 72) has recently documented how women who work in personal market gardens may be "demonized...as bad wives." Women are restricted to working on the household or husband's farm for most of the week.[1]

We examine whether activity-regulating social norms significantly affect the allocation of women's labor by comparing two of Burkina Faso's ethnic groups, the Mossi and the Bwa. There is a considerable body of anthropological literature that suggests there are significant differences between the Mossi and the Bwa in norms that regulate activities and norms that influence threat points in intra-household bargaining (Capron, 1981; Rohatynskyj, 1988). When women are not working on their 'family' fields (where land, decisions and income are typically controlled by the husband or father), or at home, they work to earn income under their direct control. This time is divided among a number of activities; e.g., cultivating small personal fields, selling home-processed foodstuffs, and brewing and selling sorghum beer, *dolo*. Many of these activities are rigidly gendered: no man ever brews sorghum beer or makes *karite* butter in either ethnic group. Moreover, norms about these activities vary quite sharply across the groups.[2]

Bwa and Mossi also differ in socially-determined threat points. Liberty for women in choosing marriage partners and divorce are cases in point. Two institutions among the Mossi illustrate the lack of choice for women: the *pug-suiré*, whereby the chief of a village would be given the right to decide on the marriage partners of young girls; and the *pug-konré*, where a son inherits 'rights' to his father's wives (except for his own mother). Divorce is infrequent. The Bwa, by contrast, are usually portrayed as

decidedly less rigid and less patriarchal. For example, Bwa marriages do not appear to be very durable. Retel-Laurentin (1973:294) finds that under half of the marriages in her sample of 545 Bwa women in the Hounde region were stable; the rest ended in divorce.

3. Social norms and time allocation

We review two models explaining how extra-household variables affect time allocation. First, extra-household parameters may influence women's activities indirectly via threat points. In the model of Carter and Katz (1997), men and women negotiate an enforceable conjugal contract before marriage, and then subsequently play a non-cooperative game within the household. In the context of Burkina Faso, we might think of the conjugal contract as covering the share of agricultural production on the husband's field that is to go to the woman, or the size of a field that a man must give his wife. In the share case, the share may be determined at the time of marriage, but after marriage men and women still have to decide how much time to devote to agriculture or other activities (see Bøe, 1998, for a recent analysis of this case). Changes in community-wide social norms that influence threat points in the intra-household bargaining process over the share variable would affect the optimal allocation of labor. Therefore, differences in local divorce rules, rules concerning parental control over daughters, or stigma applied to women who remained unmarried may affect the responsiveness of women's time allocation to opportunity costs involved in household production.

In contrast, consider a model of social norms regarding appropriate activities in the spirit of Akerlof (1980). Suppose a village consists of pairs of men and women. Men are the owners of farm capital, K. Each household maximizes a joint welfare function. Women divide T units of work time between farm L_a , market L_m , and home L_h, so $T = L_a + L_h + L_m$. The household has a production function $A(K,L_a)$ that corresponds to output on the husband's farm and a function $H(K,L_h)$ that

corresponds to home output (including leisure), the value of which also depends on household farm capital. Farm capital increases the marginal product of labor in home time because many home activities are complements to farm work (e.g., taking care of livestock, cooking bigger meals for workers). We assume that $A_{LL} < 0$, $A_{KK} < 0$ and $A_{KL} > 0$, and similarly for $H( )$. Market production, in contrast, is characterized by a production function mL_m, since most women's activities require limited amounts of capital (such as a cooking pot) compared with family agriculture. Market ouput is valued at price p. The labor supply of the husband is assumed inelastic and its allocation is fixed across activities.

Activities may be subject to social norms, which means that a woman's actions may generate non-pecuniary rewards. We model the effects of these norms in a simple way, by assuming that losses in social standing from deviating (or non-conforming) vary according to the function:

$$\overline{S} \ \& \ \mathbf{j}_{i \cap J} \ (1/2 a_j (L_j \& \overline{L}_j))^2 \tag{1}$$

where $J=\{a,h,m\}$ denotes the set of activities available to the woman. The benefits from conforming to social norms is given by $\overline{S}$. The parameters a_a, a_h, and a_m represent the intensity of social penalties for violating norms regarding agricultural work on the husband's fields, home work, and market work, respectively. $\overline{L}_j$ is the mean time spent in activity j for women of a social group. Thus in this expression, social penalties depend on the intensity parameter a_j and the extent of deviation from mean time spent on the activity by other women. The household allocates the woman's labor by maximizing

$$\max_{L_a, L_h, L_m} \quad A(K,L_a) \% H(K,L_h) \% pmL_m \% \overline{S} \ \& \ \mathbf{j}_{i \cap J} \ (1/2 a_j (L_j \& \overline{L}_j))^2 \qquad s.t. \qquad L_a \% L_h \% L_m \ ' \ T \tag{2}$$

From the associated first-order conditions, we may derive a set of reduced form equations for the allocation of time into each of the three activities. Time in each activity will depend on the level of

household capital, the price of the market product, the level of the activity prescribed in the norm, and strength of the norm (the intensity of penalties from deviating or rewards for conforming).

To examine whether activity-regulating social norms influence the time allocation of women, the first order conditions for the woman can be totally differentiated to yield comparative statics showing how time allocation varies with changes in household capital. Table 1 summarizes the relevant derivations of the expected differences in effects, between the two ethnic groups, in their responsiveness to changes in capital. (An appendix, available upon request, contains details of the straightforward derivations.[3]) The table shows the comparative statics for how time allocated to agriculture, home and market change with changes in household capital. For example, using Cramer's rule we find that:

$$\frac{\partial L_a}{\partial K} \; ' \; \frac{1}{|H|}(A_{LK}H_{LL} \& A_{LK}a_h \% a_m(H_{LK} \& A_{LK})) \;\; > \;\; 0 \qquad if \;\; A_{LK} > H_{LK} \qquad (4)$$

We assume that across the relevant allocations, $A_{LK} > H_{LK}$ since the primary effect of an increase in capital is to increase the productivity in agriculture, whereas the increase in home productivity (which includes support for agricultural activities) is a secondary effect. Therefore, time in market activities falls as the household obtains more capital, time in agriculture rises, and time at home may rise or fall.

Because the Mossi and the Bwa have different social norms, reflected in different a_j, the magnitudes of the comparative statics will differ for the two groups. The discussion in the previous section suggests that Mossi women are constrained by norms about working on the fields of their husbands, while Bwa women are most influenced by norms rewarding the market-oriented activity of making and selling *dolo*. These prior beliefs suggest that the magnitudes of the comparative statics should differ according to the pattern expressed in column (4) of the table. The patterns of column (4) may be expected when the Mossi have strong norms about work in agriculture (a_a high) and no strong

norms about income-generating activity (a_m equal to zero), while the Bwa have strong norms about income-generating activities (a_m high) and no norms about agricultural work (a_a equal to zero), and neither have norms about home time (a_h equal to zero for Bwa and Mossi). Consider whether $\frac{\mathsf{M}L_a^{Bwa}}{\mathsf{M}K} > \frac{\mathsf{M}L_a^{Mossi}}{\mathsf{M}K}$ under these assumptions. By substituting for the Hessian in equation (4) and setting the assumed $a_j=0$, the condition reduces to whether:

$$\frac{A_{KL}H_{LL}\%a_m(H_{LK}\&A_{LK})}{\&A_{LL}H_{LL}\%a_m(A_{LL}\%H_{LL})} \quad for \ a \ Bwa \ woman \ > \ \frac{A_{KL}H_{LL}}{\&A_{LL}H_{LL}\%a_aH_{LL}} \quad for \ a \ Mossi \ woman \quad (5)$$

As a_m gets large for the Bwa, the LHS side approaches a finite positive number, while as a_a gets large for the Mossi, the RHS approaches zero. Therefore, we expect that for Bwa women time in agriculture is more responsive to changes in farm capital than for Mossi women.

In summary, the time that Bwa women spend in agriculture will be very responsive to changes in capital, while their time in the market will not be as responsive, compared with the responsiveness of Mossi women. The time that Mossi women spend at home would be very responsive to changes in farm capital, compared with the Bwa (for whom the effect could be negative). The responsiveness of Mossi to changes in farm capital should be primarily in a reallocation of labor between home and market, while the responses of Bwa women to changes in capital should be between agriculture and home.

4. Empirical results

Recent years have seen papers estimating the determinants of the allocation of women's time in a household setting use increasingly sophisticated econometric methods (Khandker, 1988; Skoufias, 1993; and Hopkins, Levin and Haddad 1994). Work has focused on demonstrating that individual-level

economic variables-- property, independent income, market returns-- influence the welfare and choices of women. Some studies show that women's time allocation responds to variables such as wages, wealth, and human capital. Others confirm that when women have independent access to wealth or income they are in stronger positions when bargaining with their husbands over consumption and investment choices. These findings suggest that the gender problem is one of low endowments for women, or is really not a problem at all, as learned or natural comparative advantage influences the choices made by men and women. The results are sometimes construed as casting doubt on the role of patriarchy or other discriminatory norms in explaining women's behavior. None of the papers, however, tries to test for the presence of social-level threat points or norms that restrict women's economic behavior.

We use data from a small market village of 121 households, Bereba, lying in the heart of Burkina Faso's dynamic cotton zone, to examine whether the response of individual women to the farm capital of their husbands varies by ethnic group. Bereba is an ideal location to test for the importance of norms because it is a multi-ethnic village, and so different ethnic groups confront similar technologies and prices. Roughly two thirds of the households were Bwa, one third Mossi, and a few households belonged to other ethnic groups. Information on time allocation was obtained from a stratified sample of 101 Mossi and Bwa women through weekly interviews conducted 13 times from July to December, recording the major two activities on each day of the previous seven days.

There are marked differences in time allocation between the two ethnic groups across three activities (working on the fields of their husbands; working on a personal activity that generates income for themselves; and working at home) and two dimensions (according to season, namely peak agricultural periods and off-peak agricultural periods when relatively little work is done in the fields; and according to the day of the week, namely ordinary weekdays where no market is held and market days, Fridays and Mondays, where people go to buy and sell in the markets, and where people who do not work in markets

9

have their traditional rest day). One surprise is the relatively minor contribution of women to the family field, whose product is controlled by the husband. The average time spent on the husband's field was 22% of available time on weekdays and 11% of market days. These averages varied over the season; when agricultural operations were important (plowing/planting during the initial early rains, and later during the harvest), women spent more time on their own and their husband's fields. Mossi women worked on their husband's fields more often on both weekdays (12% during off-peak season and 35% during peak) and market days (except for peak season market days when Bwa women worked slightly more). Bwa women were less likely to work on the fields of their husbands, especially older Bwa women whose participation in the husband's field drops by half compared with younger women.

Women spent an average of 37% of days working to earn income under their direct control, and this time was obviously concentrated on market days and off-peak weekdays. Most Mossi women had personal fields; only a few older Bwa cultivated on their own.[4] In Bereba, only Bwa women made *dolo*, though many Mossi women had made it in their natal villages. Bwa women spent less time on income-generating activities than did Mossi women during the week, and Mossi women were very likely to spend market days on income-generating activities (principally selling processed foods). Bwa women by contrast had considerably more time allocated to home work, including leisure and travel time (around 50% during market days and 45% during weekdays).

Table 2 defines the variables used in the regressions and Table 3 reports estimates of the determinants of time allocation of women for each of the three activities, where we pool the data of four time periods into a single regression. That is, we think of data as observations for the same individual from four different time periods (market days during the peak agricultural period, weekdays during the peak agricultural period, off-peak market days and off-peak weekdays). Chow tests indicate that it is appropriate to estimate the data together, for the different time periods, as well as to estimate the

equations for Mossi and Bwa together, for the equations estimating time at home and time on income-generating activities. The equation explaining time on husband's field, however, is best estimated separately according to time period (pooling Mossi and Bwa).   Accordingly, the regression were also estimated separately. Few of the results are affected significantly by the sample used.   In all equations the data on time allocated to home and income-generating activities is estimated with OLS, while the data on time allocated to husband's fields is estimated with Tobit, since about one third of Bwa women never work on the fields of their husbands.

The results confirm that Bwa women spend considerably less time working on the fields of their husbands and in the market, and more time at home. The coefficients on BWA are large and significant for all three equations. More importantly, in most specifications the coefficients on OXEN, OXSQ, OXEN*BWA and OXSQ*BWA are generally quite large and significant in determining time allocation. Farm capital matters in time allocation, but it matters differently according to ethnic group. Table 4 summarizes the marginal effects of increases in oxen ownership on time allocation for the two ethnic groups, for different estimations. What these results show quite clearly is that Bwa women respond differently to opportunity costs than do Mossi women. Adding one draft animal, evaluated at the mean, leads a Bwa woman's time devoted to the field of her husband to increase by five percentage points using the results from the full-sample. Mossi women, by contrast, exhibit almost no responsiveness as the number of oxen owned by their husbands increases (the coefficients are generally not significant, and they are very much smaller, with one exception, than the Bwa coefficients).

The Mossi women's pattern of response to changes in husband's farm capital is different from that of the Bwa women.   When their husbands have more farm capital, Mossi women do not increase their time allocated to their husbands' fields. Instead they decrease their time spent on income-generating activities and spend more time at home. As farm capital increases, Bwa women's increased time in

agriculture comes at the expense of both time in the market and time at home. We would expect the

reduction in home time, given that the primary effect of an increase in oxen should be on direct

agricultural labor activity rather than possibly complementary, but indirect, home activity. This significant

agricultural labor responsiveness of Bwa women to their husband's oxen, and non-responsiveness of

Mossi women, is exactly what the social norm hypothesis might predict if Mossi women faced greater

sanctions for violating the norm of working on the fields of their husbands, or if Mossi women were likely

to benefit from place-specific learning because they would never be able to divorce their husbands. The

reduction in time spent by Bwa women in income-generating activities is, however, not entirely consistent

with a norm rewarding that activity. We would have expected the magnitude of the reduction in income-

generating time to have been smaller. But the magnitude is half the size of the effect for the Mossi

women, although the difference is not statistically significant.

As noted earlier, an alternative to the view that social norms influence the time allocation of

women is that their time allocation is determined in a process of intra-household bargaining where

individual variables reflecting bargaining power are important.[5] Under this hypothesis we would expect

time allocation to be significantly affected by variables that proxy for the threat points employed in

determining the bargaining outcome. Generally speaking, these variables ought to represent the welfare

potential of a woman outside the household or in a culturally defined separate sphere within the household

(Lundberg and Pollak, 1993). That is, they represent some measure of the woman's reservation welfare.

In the context of southwestern Burkina Faso, these variables would be those that indicated the well-being

a woman might expect upon leaving the household for her natal family. The equations estimated in Table

3 include five variables which represent reasonable proxies of these threat points. Of these five variables

(FARMEE, FCHIEF, SALAR, the total years of formal schooling of the woman's siblings, EDU, and the

number of brothers a woman has, BROS), only the variable FARMEE is sometimes significant, and it is

positive where we would expect it to be negative in the time on husband's field equation (a wealthier father means the woman could work less on her husband's field). In tests of the joint significance of the five variables, they are significant at the 95% level in only one of the nine equations.

5. Conclusion

The empirical results of this paper confirm the substantial effect that social norms may have on the labor allocation of women. While women's labor allocation changes significantly with a husband's farm capital within the Bwa ethnic group, among the Mossi ethnic group a husband's farm capital has no significant effect on time in agricultural labor. This finding is consistent with the hypothesis that emerges from a review of the anthropological literature that Mossi women are more economically and socially constrained than Bwa women. Our empirical results furthermore support the view that social norms, as proxied by ethnicity, play an important role in determining the time allocation of women's labor. In contrast, none of the variables that we expected to represent intra-household bargaining threat points significantly influenced women's time allocation in our estimations. In addition, the intra-household approach does not have a good explanation for the extreme gendering of activities between the groups, where Bwa women do not have personal fields and Mossi women do not brew sorghum beer. This gendering of activities is strongly suggestive that activity-regulating norms may be at least as relevant, in settings like southwestern Burkina, as socially-determined threat points.

The central policy issue we address in this paper is what characterization of women's time allocation of labor is most appropriate for shaping public policy. In the last twenty years, there has been a proliferation of micro-level development programs in developing countries targeting impoverished households with programs such as small-scale animal husbandry programs, cottage industry co-operatives, and microenterprise lending. Many of these programs are targeted specifically at raising the welfare of

women.   If programs are implemented on an individual household basis, they may meet with limited success since new economic activities undertaken by individual women may deviate from existing social norms. However, if programs strive for broad participation , individual women are less likely to face sanctions for engaging in the new economic activity. In this way, village-wide participation in such programs is more likely to result in welfare increases for individual women.

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Notes

1.Roberts (1988:104) surveys the literature and remarks that, "the claims of a male head of household or husband over his wives' labor services are considerable and not reciprocal. The extent of wives' obligations to provide labor to their husbands is a major constraint upon the development of their own-account enterprises."

2.For example, brewing sorghum beer is common in many Mossi villages, but in others, particularly those composed of Muslim immigrants in southwestern Burkina, it is proscribed. For Bwa women, by contrast, beer-brewing is seen by most as an essential activity of a woman, crucial for maintaining social status and connections within the village. There are similar differences in working on personal fields. Most Mossi women have personal fields, but it is rare to find Bwa women cultivating on their own. In many Bwa villages no women will cultivate individually.

3.The appendix of derivations, and full regression results, is located at

http://lsb.scu.edu/mkevane/RDEapp.pdf

4. In fact, the only Bwa woman to work a significant amount of time (about 30% of weekdays) on a personal field was an older woman whose husband was sick (and died) during the study period. Towards the end of the season, she spent most of the week helping relatives in their cotton harvests.

5.The results show that social norms are only part of the story in the determination of women's time allocation; incentives also matter. Thus women work less time in the market during the peak agricultural periods (the sign on MKPEAK is negative) and during weekdays (WKPEAK and WKOFF); they work most in the market on market days and in the off-season. The same holds for home time: they spend more time on fields of their husbands when it matters most during peak periods and weekdays. The variable HOMETOT, the index of housing investments proxying for non-farm wealth, is usually not significant but has a consistent pattern: wealthier women spend more time in the market and less time at

home. For many women time in the market may be a combination of leisure and work time.

Responsiveness of Time Allocation and Predicted Differences for Mossi and Bwa

	comparative static	sign	for whom is effect bigger?*	reason for difference
$\dfrac{\partial L_a}{\partial K}$	$\dfrac{1}{\partial H^*}(A_{LK}H_{LL}\&A_{LK}a_h\%a_m(H_{LK}\&A_{LK}))$	$+$	Bwa	a_a large for Mossi because of Mossi norm that women should work on fields of husband
$\dfrac{\partial L_h}{\partial K}$	$\dfrac{1}{\partial H^*}(H_{LK}A_{LL}\&H_{LK}a_a\%a_m(A_{LK}\&H_{LK}))$	$+$ for Mossi ? for Bwa	Mossi	a_a large for Mossi because of Mossi norm that women should work on fields of husband, a_m small for Mossi because of tradition of independent fields
$\dfrac{\partial L_m}{\partial K}$	$\dfrac{1}{\partial H^*}(\&A_{LL}H_{LK}\&A_{LK}H_{LL}\%H_{LK}a_a\%A_{LK}a_h)$	$-$	Mossi	a_m large for Bwa because of Bwa norm favoring dolo market activity

*under assumptions in text.

Table 1: Comparative Statics of Responsiveness of Time Allocation to Capital, and Predicted Differences Between Mossi and Bwa

Descriptive Statistics for Mossi and Bwa women (Sample averages)

Variable	Bwa young women (under 35) n=21	Mossi young women (under 35) n=16	Bwa older women (over35) n=47	Mossi older women (over35) n=16
CHILDBF # of children 0-2	.57	.63	.15	.31
CHILD210 # of children 2-10	.90	1.24	.83	1.31
OLDERG # of girls 11-20	.14	.12	.53	.63
OLDERB # of boys 11-20	.17	.16	.93	1.21
BD Year of birth	1971	1970	1946	1950
WID Whether widow	0	0	.36	.19
MARRIED whether married	.79	1.00	.72	.81
COWI fraction more than one wife	.24	.47	.55	.31
SCHYR Years schooling of woman	1.38	.13	.15	.00
HOMETOT index of housing	1.29	.94	.85	1.25
OXEN # of husband's oxen	2.62	1.56	2.24	2.07
EDU Years schooling of siblings	11.33	6.81	3.96	1.75
FCHIEF whether father was a chief	.14	.00	.11	.13
BROS # of brothers	2.19	5.59	1.66	6.81
SALAR whether father salaried	.19	.25	.09	.06
FARMEE whether father in army	.24	.06	.13	.13

Table 2: Descriptive Statistics for Mossi and Bwa women (Sample averages)

	Time at home (OLS)		Time in market (OLS)		Time on husband's field (Tobit)	
Results of estimations with percent time allocated to activity as dependent variable						
Variable	**â**	**t-stat**	**â**	**t-stat**	**marginal effect**	**z-stat**
Constant	0.258	3.22***	0.711	8.67***	-0.025	-0.47
CHILDBF	-0.045	-1.67*	0.023	0.84	0.023	1.29
CHILD210	0.007	0.62	-0.007	-0.56	0.002	0.28
OLDERG	-0.061	-4.07***	0.033	2.16**	0.024	2.28**
OLDERB	0.033	2.54**	-0.026	-1.97**	-0.006	-0.59
BD	0.001	0.77	-0.002	-1.68*	0.001	1.06
WID	0.026	0.80	0.016	0.48	-0.057	-2.53**
SCHYR	0.005	0.38	0.006	0.44	-0.008	-1.01
OXEN	0.059	2.66***	-0.059	-2.59***	0.006	0.44
OXSQ	-0.007	-2.55**	0.006	2.15**	0.000	-0.07
BWA	0.253	5.73***	-0.139	-3.07***	-0.183	-6.03***
OXBWA	-0.097	-3.40***	0.025	0.87	0.111	5.44***
OXSQBWA	0.012	3.09***	-0.002	-0.50	-0.015	-5.32***
EDU	0.001	0.47	0.000	0.25	-0.002	-1.46
FCHIEF	-0.028	-0.67	0.030	0.69	0.000	0.00
BROS	0.001	0.23	0.003	0.67	-0.005	-1.52
SALAR	0.020	0.56	-0.056	-1.53	0.027	1.15
FARMEE	-0.089	-2.45**	0.027	0.72	0.055	2.27**
HOMETOT	-0.015	-1.65*	0.019	2.00**	-0.002	-0.30
COWI	0.015	0.66	-0.015	-0.64	0.000	0.00
WKPEAK	-0.068	-2.26**	-0.185	-5.99***	0.240	11.42***
MKPEAK	-0.004	-0.13	-0.086	-2.78***	0.109	5.24***
WKOFF	-0.036	-1.20	-0.007	-0.22	0.061	2.89***
R-square	.21		.22			
Log-likelihood					0.30	
n	380		380		380	

*significant at 10% level, **significant at 5% level, ***significant at 1% level.

Table 3: Results of estimations with percent time allocated to activity as dependent variable

Estimated Responsiveness of Time Allocation to Farm Capital

	Effect of one more draft animal* (at mean of explanatory variables)		Test statistic for difference between ethnic groups	For whom is effect bigger?
	Bwa	Mossi		
		full-sample		
$\text{M}L_a/\text{M}K$	0.049	0.006	31.14^	Bwa
$\text{M}L_h/\text{M}K$	-0.017	0.029	5.81^	Mossi
$\text{M}L_m/\text{M}K$	-0.016	-0.033	0.66^^^^	Mossi
		peak period		
$\text{M}L_a/\text{M}K$	.087	-.008	42.65^	Bwa
$\text{M}L_h/\text{M}K$	-.010	.026	1.47^^^^	Mossi
$\text{M}L_m/\text{M}K$	-.053	-.017	2.87^^^^	Bwa
		off-peak period		
$\text{M}L_a/\text{M}K$	.0139	.0136	5.46 ^^^	Bwa
$\text{M}L_h/\text{M}K$	-.024	033	5.22^	Mossi
$\text{M}L_m/\text{M}K$	.022	-.049	5.87^	Mossi
		weekdays		
$\text{M}L_a/\text{M}K$	.035	.007	20.26^	Bwa
$\text{M}L_h/\text{M}K$	-.003	.054	2.03^^^^	Mossi
$\text{M}L_m/\text{M}K$	-.022	-.060	0.46^^^^	Mossi
		market days		
$\text{M}L_a/\text{M}K$	.061	.004	11.41^^	Bwa
$\text{M}L_h/\text{M}K$	-.032	.004	3.83^^	Bwa
$\text{M}L_m/\text{M}K$	-.010	-.007	1.42^^^^	Bwa

*effect is sum of estimated coefficients on OXEN, OXSQ, OXEN*BWA and OXSQ*BWA

^ $\div^2$ statistic significant at 1% level (for Tobit estimation), F-statistic significant at 1% level (for OLS estimation)

^^ $\div^2$ statistic significant at 5% level, F-statistic significant at 5% level

^^^ $\div^2$ significant at 10% level, F-statistic significant at 10% level

^^^^ not significantly different

Table 4: Estimated Responsiveness of Time Allocation to Farm Capital